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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/035,985

12/31/2001

Xingwu Wang

XW-33

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7590

11/15/2007

CURATOLO SIDOTI CO., LPA

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CLEVELAND, OH 44145

EXAMINER

WANG, EUGENIA

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

11/15/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/035,985	Applicant(s) WANG ET AL.	
	Examiner Eugenia Wang	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 6-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 6-18 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Appeal Brief

1. The decision on the Appeal made on October 31, 2007 has been noted. The Examiner's previous position has been reversed. However, the application is not yet in condition for allowance.

Specification

2. The abstract of the disclosure is objected to because it is not a complete sentence (no verb is present). Correction is required. See MPEP § 608.01(b).

3. The disclosure is objected to, because it fails to comply with 37 CFR 1.57 (c). It does not describe the structure, material, or acts that correspond to a claimed means or step for performing a specified function as required by the sixth paragraph of 35 U.S.C. 112 and does not describe the claimed invention in terms that particularly point out and distinctly claim the invention as required by the second paragraph of 35 U.S.C. 112. More specifically, the biological subject matter incorporated by reference would not be obvious to one of ordinary skill in the art. The reasoning for this is demonstrated using the Fuel Cell Handbook (Fifth Edition). Within the handbook, traditional fuel cells assemblies and operation methods are disclosed. For example, the handbook does not include the enzymatic reactions of turning fat to fatty acids and glycerol and then turning fatty acids and glycerol into hydrogen fuel, as required by the claimed invention. Therefore one of ordinary skill in the fuel cell art would not find the Specification properly disclosed in such a manner that allows one of skill in art to ascertain the structure and acts of means for performing a the specified function. Thus, one skilled in

the art would not be able to identify the structure, material or acts from description in the specification or performing the recited function. Applicant is required to amend the specification to include the material incorporated by reference and to clearly link or associate the structure, material or acts to the function recited in the claim. Applicant should not be required to insert the subject matter described in the entire referenced document into the specification. To maintain a concise specification, Applicant should only include the relevant portions of the referenced documents that correspond to the means (or step)-plus-function limitation. See *Atmel*, 198 F.3d at 1382, 53 USPQ2d at 1230 ("All one needs to do...is to recite some structure corresponding to the means in the specification...so that one can readily ascertain what the claim means and comply with the particularity requirement of Para. 2."). (See MPEP 2181, Section III.) No new matter can be entered.

Claim Interpretation/35 USC § 112(6)

4. Examiner it is unclear whether or not Applicant is invoking 112(6) with the "means for" language in claim 1. However, the dependent claims appear to impart structure to the means of claim 1, thus failing the 3-prong analysis. For example, claim 7 imparts the structure of lipase enzyme as the "means for." Therefore, for the purpose of the office action Examiner is interpreting the claims as if they do not invoke 112(6). Applicant is advised to remove the "means for" language from the claims.

While this interpretation is applied for prior art purposes, further issues arise in light of the use of "means for" in the claims and incorporation by reference to various elements which, may or may not have been recognized equivalent as to the "means

for.” The objection to the specification (above) as well as the 112 second paragraph issue made below expand on such issues.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-3 and 6-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The combination of "means for" language and incorporation by part of the subject matter renders the Specification of the instant application indefinite. Notably, the biological subject matter, different from traditional fuel cells, incorporated by reference would not be obvious to one of skill in the art and thus does not sufficiently provide structure, material, or acts and equivalents thereof. Therefore, the means for must be clearly defined in the specification of the instant application. Reiterated herein are the reasons as to why the biological reactions encompassed are outside of the scope of one skilled in the fuel cell art. The Fuel Cell Handbook (Fifth Edition), discloses traditional fuel cells assemblies and operation methods. For example, the handbook does not include the enzymatic reactions of turning fat to fatty acids and glycerol and then turning fatty acids and glycerol into hydrogen fuel, as required by the claimed invention. Therefore one of ordinary skill in the fuel cell art would not find the Specification properly disclosed in such a manner that allows one of skill in art to ascertain the structure and acts of means for performing a the specified function. Thus,

one skilled in the art would not be able to identify the structure, material or acts from description in the specification or performing the recited function. Applicant is required to amend the specification to include the material incorporated by reference and to clearly link or associate the structure, material or acts to the function recited in the claim. Applicant should not be required to insert the subject matter described in the entire referenced document into the specification. To maintain a concise specification, Applicant should only include the relevant portions of the referenced documents that correspond to the means (or step)-plus-function limitation. See *Atmel*, 198 F.3d at 1382, 53 USPQ2d at 1230 ("All one needs to do...is to recite some structure corresponding to the means in the specification...so that one can readily ascertain what the claim means and comply with the particularity requirement of Para. 2."). (See MPEP 2181, Section III.)

A disclosure in an application, to be complete, must contain such description and details as to enable any person skilled in the art or science to which the invention pertains to make and use the invention as of its filing date. In re Glass, 492 F.2d 1228, 181 USPQ 31 (CCPA 1974). (MPEP 608.01(p))

" Essential material " may be incorporated by reference, but only by way of an incorporation by reference to a U.S. patent or U.S. patent application publication, which patent or patent application publication does not itself incorporate such essential material by reference. "Essential material " is material that is necessary to:

(1) Provide a written description of the claimed invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable

any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and set forth the best mode contemplated by the inventor of carrying out the invention as required by the first paragraph of 35 U.S.C. 112;

(2) Describe the claimed invention in terms that particularly point out and distinctly claim the invention as required by the second paragraph of 35 U.S.C. 112; or

(3) Describe the structure, material, or acts that correspond to a claimed means or step for performing a specified function as required by the sixth paragraph of 35 U.S.C. 112. (MPEP 608.01(p))

Conclusion

6. Prosecution on this application has been reopened after a decision of the BPAI reversing the examiner with the approval of the TC Director's designee.

Note: Although no prior art rejection was made, no determination about the allowability of the claims can be made pending clarification of the issues noted above.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eugenia Wang whose telephone number is 571-272-4942. The examiner can normally be reached on 7 - 4:30 Mon. - Thurs., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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